

# Physics Department Management Review 2017

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**This presentation is part of the periodic senior management review of ESSH performance related to the EMS and OHSAS management systems in the Physics Department.**

**The purpose is to assess management system effectiveness and identify opportunities for improvement.**

**Previous presentations: <http://www.phy.bnl.gov/~safety/EMS/>**

## **Agenda**

- Scope and overview of the management systems
- Hazard and environmental aspects identification
- Review of related assessments
- Financial investments and stakeholder concerns
- PO performance
- Other FY17 goals

# EMS and OHSAS Scope

- Ron Gill and Mike Zarcone have retired, all tasks are now covered by Achim Franz, ESH Coordinator for PO and IO, working together with Robert DiNardo
- support of Frank Craner (ECR), Joe Vignola (RCT), and ... (SHR, Mary Chuc left)
- PO (NPP) work (office & experiments) in buildings 510, 515, 1005, 1008
- NN, RACF occupy offices in 510/515, but not included in the Physics Department EMS or OHSAS
- CMPMSD (Condensed Matter Physics & Materials Science Department) moved to ISB (Interdisciplinary Science Building), completed in FY14
  - CMPMSD is using 510 space during laboratory cleanout, which was expected to end in CY2016
  - Items in the basement and 510 corridor were listed on property review
- Approximately 250 employees, 225 guests in the Department

RCT [Radiological Control Tech]  
SHR [Safety and Health Rep]  
ECR [Environmental Compliance Rep]  
FSR [Facility Support Rep]

# Operating Mechanisms

- Hazards, environmental aspects & controls identified & reviewed via ESRs (Experimental Safety Review)
  - ECR (Environmental Compliance Representative) reviews all ESRs for environmental component
  - IH (industrial hygiene) Rep reviews all ESRs for concerns/monitoring
  - All ESRs have pollution prevention plans
  - ESRs provide risk assessment for each hazard, HVT posters
- Information distribution
  - Web pages: <http://www.phy.bnl.gov/~safety/EMS>; ...OHSAS; ...ESRs
  - New employee discussion & handout
  - Meetings: Physics Department management, all-hands, ESSHC, GSC, GL
- Establish annual goals & targets
  - Lab-level inputs to objectives and targets are considered
  - Department-level input
    - Feedback from previous management review
    - Feedback from staff via GSCs, all-hands meetings, etc.
- MOUs for inter-departmental issues: work planning, experiment review, tier 1s, etc.
  - MOU with C-AD for Physics Personnel working in C-AD space (10/25/2016)
  - MOU with ITD for our use of Building 515 (Nicole Bernholc), to be updated question about Tier-1 inspections
  - MOU with NN for their personnel in building 510

# Hazards & Environmental Aspects

## Hazards:

- Hazardous or toxic materials
- Electrical energy
- Flammable gases and liquids
- Flammable or combustible materials
- Cryogenic materials/devices
- Oxygen deficiency potential
- Ionizing radiation
- Non-ionizing radiation
- Radioactive materials
- Operating vehicles
- Housekeeping hazards
- Working environment hazards
- Heavy metal contamination (legacy)

## SEAs (Significant Environmental Aspects) :

- Regulated industrial waste generation
- Hazardous waste generation
- Radioactive waste generation (sealed sources)
- Storage/use of chemicals & radioactive materials
- Greenhouse gas emissions

**No changes from last year(s)**

# BNL Assessments

July 2016 EPA

March 2017 LOTO (no LOTO in Physics Dept.)

March 2017 NYSDEC (inspected 90Day area)

April/May 2017 Annual Institutional Internal Assessment, EMS, OSHAS

2. OHSAS, Element 4.4.2: The assigned team leader for Tier 1 Inspections in Physics does not have the OSHA 10 or 30-hour training, as required by the Subject Area. Evidence: Role was assigned to new individual in December 2015. The individual has not received the required training.

Additional observations in the area: Annual face-flow certification for a hood was not performed (Physics 2-205), Oxygen detector did not have calibration sticker (Asset# A91773, Physics 2-201), four tier 1 second quarter inspection results have not been tracked (Physics).

**All resolved**

Aug 25 possible fire drill

Nov 11-27 2017 external ISO14001-2015, OSHA18001 assessment

# PO Assessments

- Annual reviews
  - Annual policy & procedure reviews , ongoing
  - Annual hazard placard (HVT) reviews , ongoing
  - Ongoing ESR reviews and renewal , ongoing
  - Chemical audit, completed May 2017
  - Exhaust hoods tested and labelled, done
  - Individual dose rate including cross-departmental workers
- Tier-1, mainly housekeeping
- Training statistics, employees (99%/98%), guests (91%/94%) (PO/BNL)
- Property walk-through, June 2017, three items reported, all related to old equipment from Francis Loeb, ongoing
- Unsecured doors, FY17: 11, propped open 3, no reports recently, communication was sufficient
- Management work observations
- Sealed Source safety analyses and leak tests, done
- Review of Laser Standing Operation procedures, ongoing
- Radiation generating devices (UV lamps), done
- Ergonomics, increased use of standing desks

Cat.#	Code	Category	Total Findings			
			2017 Q 1&2	2016	2015	2014
1	HK	Housekeeping	10	21	16	4
2	WEP	Working Environment: Plant		4	3	12
3	WED	Working Environment: Department			2	3
4	OG	Outside and Grounds			1	0
5	FS	Fire Safety		3	10	0
6	ESD	Electrical Safety: Distribution	2	1	2	4
7	ESE	Electrical Safety: Equipment			2	3
8	ESP	Electrical Safety: Programmatic			2	3
9	CSL	Chemical Safety: Labeling			0	0
10	CSU	Chemical Safety: Use			0	0
11	CSS	Chemical Safety: Storage			0	0
12	PPE	Personal Protective Equipment			0	0
13	CG	Compressed Gas/Cryogenics)		3	1	2
14	BH	Biohazards		1	0	0
15	RS	Radiation Safety			0	0
16	WT	Waste			0	0
17	EM	Environmental		2	4	0
18	MS	Machine Shop Safety			0	0
19	MH	Material Handling and Equipment Safety			0	0
20	IH	Industrial Hygiene Issues			0	0
21	SEC	Security			1	0
22	UP	Unsafe Practices			0	0
23	OT	Other		4	4	0
		<b>Total</b>	<b>2</b>	<b>39</b>	<b>48</b>	<b>31</b>

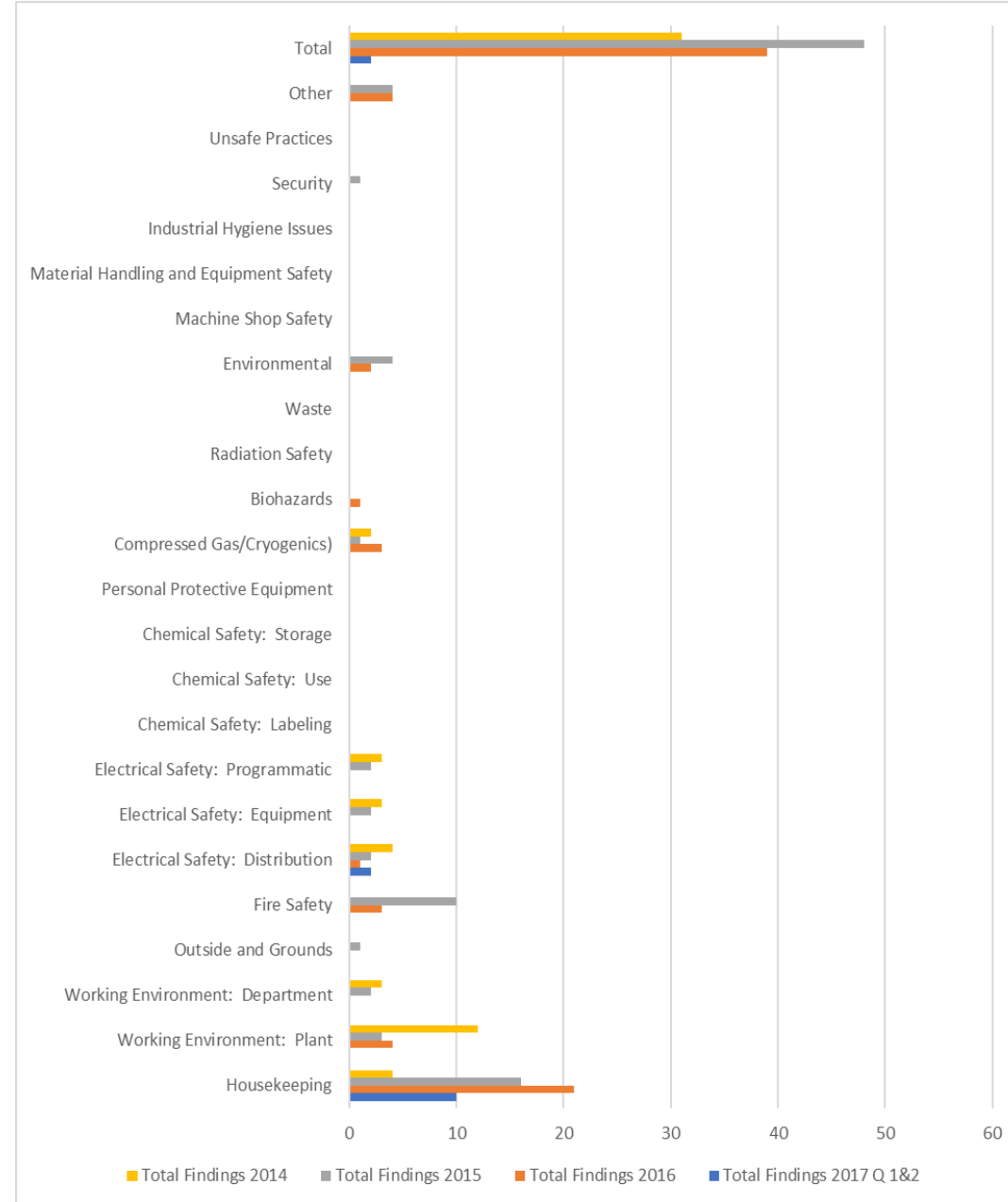
# Tier-1

Doing much better with gas-bottle handling and storage.

Could improve on routing cables.

Labs overall much cleaner and organized.

Space heater issue has been mostly solved by improved air handling and education of staff on who controls temperature and not to block air vents.



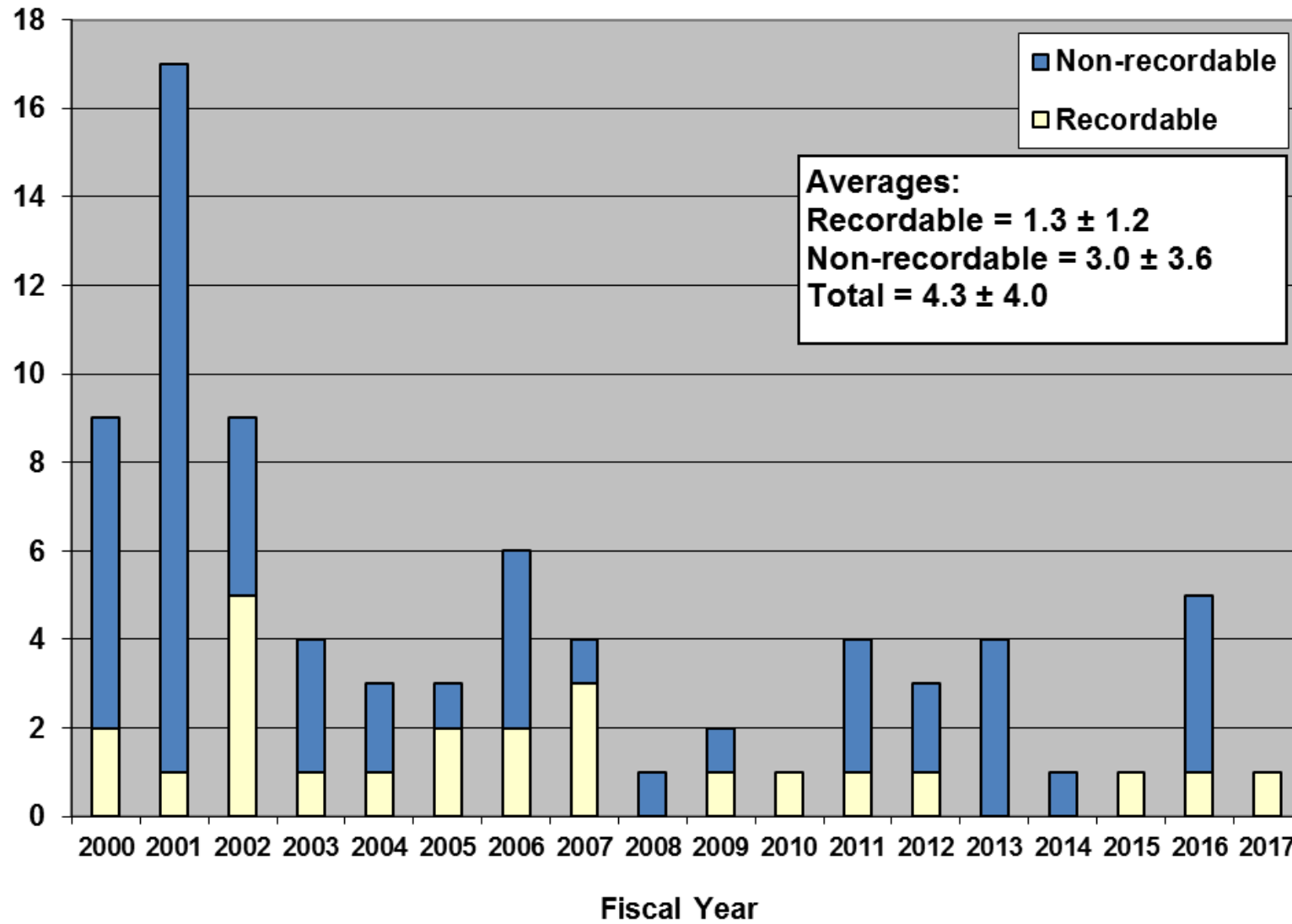


# PO Incidents

<https://intranet.bnl.gov/safety/incidents/>

- 06/09/2017 Electrical Spark from Outlet, closed.
- 02/23/2017 Employee required stitches on head after falling over parking divider, closed.
- 09/26/2016 Technician hurt hand while using sawzall, closed.
- 06/01/2016 Employee developed pain in right elbow from lifting, closed.
- 05/17/2016 Material Contamination Observed within TS3-1 (Sisko) Cryostat, closed.
  - The original source of the contamination was believed to be the nitrogen source (bottle) but in fact, it was simply a pvc coated wire that came in contact with the cryostat wall which was being baked at the time of the event. The wire type has been changed to a Teflon coated wire, which has a higher melting point and is acceptable for in-vacuum use.

## Physics Department Injuries



# Financial Investments & Stakeholder Concerns

- Funded through the Physics Department operating budget
  - 1 FTE for entire ESSH program
  - RCT – shared with other departments (25%) [Radiological Control Tech]
  - SHR – shared with other departments (10%) [Safety and Health Rep]
  - ECR – shared with other departments (10%) [Environmental Compliance Rep]
  - FSR – shared with other departments (10%) [Facility Support Rep]
- No external stakeholder concerns communicated or Identified
- No ESH communications from external interested parties
- Changing circumstances, including developments in legal and other requirements related to environmental and OSH aspects and hazards – None
- Staff Involved with teacher and student mentoring programs, Summer Sundays and tours

# Physics Performance

Follow-up from previous management review: no actions were identified

## EMS and OHSAS targets

### Objective 1: Sustain improvements in injury reduction, ESH and operational performance

- Distribute injuries and events report to Department staff (ESH weekly bulleting)

- Distribute relevant lessons learned topics to Department staff

  - Laptop battery overheated

  - Worker fell through old grate

- Distribute relevant product recall notifications to appropriate Department staff

  - Extech Digital Clamp Meters

  - Sciex Mass Spectrometers

### Objective 2: Contribute to the Lab's sustainability efforts

- Recycle obsolete documents from storage areas

- Preserve or dispose of old data tapes (still in progress)

- Move stored materials and equipment to a central location

  - From basement to scanners hall, rooms need to be emptied, more cleanup

  - Legacy stored materials from former personnel

- Raise awareness of and implement portions of "Managed Print" to reduce cost and consumption of paper and printing supplies

  - Sent message to personnel

  - Replaced paper copies of e.g. Tier-1 memos and other documents by PDFs (sign by including signature into PDF)

# Physics Performance

## Other goals and targets

- Install airflow blankets in RACF (need follow up)

- Install lactation room, estimate done

- Turn 510 library into EIC work / meeting area

- Reduce occurrences of unsecured doors (mainly towards the two clean rooms)

- Inventory of 90Day area spill kits

- Participate in focus group for 14001-2015 implementation

- Participate in focus group updating illness and injury training

Questions, comments ?